REMARKS

I. Introduction:

Claims 27 to 45 are currently pending in the present application.

It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Finality of the Office Action:

"Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it." *M.P.E.P.* § 707.07(f). If the examiner determines that the applicant's arguments are moot in view of new grounds of rejection, the "examiner must . . . address any arguments presented by the applicant which are still relevant to any references being applied." *Id.*

Furthermore, in making a final rejection, any grounds of rejection "must . . . be clearly developed to such an extent that applicant may readily judge the advisability of an appeal unless a single previous Office action contains a complete statement supporting the rejection[, in which case] the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant's reply." *M.P.E.P.* § 706.07(a).

In the Amendment, dated October 19, 2007, Applicants presented arguments with respect to the features of a resonator having an effective mechanical stiffness and mass of the spring-mass mechanism such that the process variations that occur during the fabrication of the spring-mass mechanism result in little change to a ratio of the stiffness to mass. The Final Office Action does not address these arguments. Instead, the Final Office Action asserts that "Applicant's arguments with respect to claim 27 have been considered but are moot in view of the new ground(s) of rejection," despite repeating the same rejection under 35 U.S.C. § 102(b) as presented in the Office Action of June 12, 2007. Therefore, the Final Office Action does not address all of the arguments "presented by the applicant which are still relevant to any references being applied," and includes grounds of rejection which are not "clearly developed to such an extent that applicant may readily judge the advisability of an appeal."

In view of all of the foregoing, Applicants respectfully request withdrawal of the finality of the present Office Action. Applicants further request that the next Office communication address all of the arguments presented by Applicants.

III. Rejection of Claims 27 to 45 Under 35 U.S.C. § 112 ¶ 2:

Claims 27 to 45 are rejected under 35 U.S.C. 112 ¶ 2, as assertedly indefinite.

The Examiner asserts that the geometry as required or defined by the claim is unclear. However, claim 27 clearly sets forth how the geometry must be defined. In this regard, claim 27 recites that the geometry is one that is defined by application of a fabrication process to a constituent material and further that the geometry is such that one or more variations of the fabrication process to constituent material results in little change to a ratio of the effective mechanical stiffness to the effective mechanical mass. Accordingly, the metes and bounds of the claim are clearly defined so as to encompass any geometry that includes these features.

Further, claims recite the invention. Their purpose is not to explain how to practice the claimed invention. That role is left to the specification. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1558 (Fed. Cir. 1983). Thus, the claims need not at all recite how to construct a spring-mass mechanism having the geometry which provides the features set forth in the claim. Therefore, that the claim itself does not explain how the geometry is to be constructed does not render the claim indefinite.

Instead, the specification must describe an embodiment of the present invention with sufficient detail so as to enable one to practice the claimed invention without undue experimentation. In this regard, the specification describes an example embodiment according to which the geometry is governed by the relationship given in Equation 6 of the specification:

$$\frac{\partial}{\partial uc}\left(\frac{k_y}{m}\right) = 0$$

Thus, the geometry is such that the "ratio between the change in mechanical stiffness of the spring mechanism and the change in the actual mass of the mass element" is maintained at near zero. (*Specification*, page 13, lines 13 to 16.) Further, it is provided that "the geometry of mass element 13 is appropriately selected in proportion to the width of spring mechanism 11 [such that] little change results in the ratio of change in mechanical stiffness to the change in effective mass." (*Id.*, page 14, lines 14 to 16.) In an exemplary embodiment, illustrated in figure 2,

> mass element 13 is formed from a plurality of beam structures 15 preferably formed from the same material as spring mechanism 11, and, preferably, having widths W_{mass}, where W_{mass} is 1/3 as wide as

> W_{real}. This plurality of stacked and/or interconnected beams 15 creates a mass element geometry that has relatively greater exposure to the effects of fabrication process undercut. Any process-tolerance-induced undercut error associated with the fabrication process is applied equally to the width of spring mechanism 11 and the respective widths of the plurality of beams 15 forming mass element 13.

(*Id.*, page 14, lines 4 to 11.) Exemplary embodiments of the geometry and structures are provided in figures 2 to 4C.

Thus, it is respectfully submitted that the subject matter of the pending claims is fully supported by the specification and that specification describes the claimed subject matter so as to enable one to practice the claimed invention without undue experimentation.

Furthermore, it is respectfully submitted that *a person having ordinary skill in the art would understand what is claimed when the claim is read in view of the specification*. (*See Miles Labs., Inc. v. Shandon, Inc.,* 997 F.2d 870, 27 U.S.P.Q.2d 123 (Fed. Cir. 1993)). Accordingly, the claims are clear, give rise to no ambiguity, and therefore definite.

Withdrawal of this indefiniteness rejection of claims 27 to 45 is therefore respectfully requested.

IV. Rejection of Claims 27 to 45 Under 35 U.S.C. § 102(b):

Claims 27 to 45 were rejected under 35 U.S.C. § 102(b) as anticipated U.S. Patent No. 5,914, 553 (the "Adams" reference).[1]

To reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

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[1] The Final Office Action repeats the same rejection of claims 27 to 45 under 35 U.S.C. § 102(b) as presented in the Office Action of June 12, 2007, without addressing any of the arguments presented in Applicants' Response dated October 16, 2007. Nevertheless, for the Examiner's convenience, Applicants reproduce below the arguments presented in the Response dated October 16, 2007.

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

Independent claim 27 relates to a resonator and provides for a spring-mass mechanism having a geometry that (a) defines an effective mechanical stiffness and mass of the spring-mass mechanism and (b) *is such that the process variations that occur during the fabrication of the spring-mass mechanism result in little change to a ratio of the stiffness to mass.* Accordingly, claim 27 provides for a spring-mass mechanism having a **present** geometry which has the features providing for the effect during the fabrication process. The Office Action asserts that the "Adams" reference, in figures 8 and 9, discloses the spring-mass mechanism having the geometry as provided for in the context of claim 27. However, figures 8 and 9 of the "Adams" reference do not have a geometry like that of claim 27 since its geometry is not such that variations of the fabrication process of the mechanical structures shown in figures 8 and 9 of the "Adams" reference result in little change in the ratio of stiffness to mass. Indeed, the "Adams" reference explicitly states that "[b]ecause the particular resonant frequency or the pass band of a mechanical structure being used as a filter, for example, is extremely important, the ability to tune such devices becomes essential in micromechanical structures where **processing variations will significantly impede reproduceability and thus the quality of such devices."** (The "Adams" reference, column 5, lines 57 to 62) (emphasis added).

Hence, the "Adams" reference indicates that the geometry of the mechanical structure is such that problematic process variations occur, and therefore proposes adjusting the voltage applied to electrostatic actuators to affect the stiffness to mass ratio. In this regard, the "Adams" reference refers to "electrostatic actuators which provide a mechanism for electromechanically increasing or decreasing the stiffness and thus the resonant frequency of . . . resonators [and thereby] compensate for variations that can occur in the fabrication process." Column 1, lines 49 to 62. In one embodiment of the "Adams" reference, a bias voltage between the electrodes 70 and 84 and between adjacent electrodes 72 and 90 tunes the resonant frequency of the mechanical system. The "Adams" reference, column 8, lines 51 to 56. Indeed, any review of the "Adams" reference makes plain that it does not disclose (or even suggest) addressing resonance frequency variations by process-tolerance-induced fabrication errors by employing a resonator geometry as claimed. Accordingly, the "Adams" reference does not identically disclose (or even suggest) a spring-mass mechanism having a geometry as provided for in the context of claim 27.

Since the "Adams" reference does not disclose (or even suggest) each feature of claim 27, the "Adams" reference does not anticipate claim 27. Thus, claim 27 and its dependent claims 28 to 45 are allowable.

V. Conclusion

In view of the foregoing, it is respectfully submitted that all of claims 27 to 45 are allowable. It is therefore respectfully requested that the rejections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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